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thalloid development in ferns than in the *Ophioglossaceae* and a difference in the evolution of the spores. He would, therefore, place the *Ophioglossaceae* in an order of equivalent value with the *Filices*, but in advance of them in a system of classification, inasmuch as they are in some respects more highly differentiated than the latter. —The *Library Journal* for November contains an article by Prof. Ezra Abbot, of Harvard University, showing to what extent many of our standard works of reference continue to perpetuate the old and erroneous view as to the papyrus (*Papyrus antiquorum*.) For instance in "Adam's Roman Antiquities" we read that this plant was "about ten cubits high, and had several coats or skins above one another, like an onion, &c." In Smith's "Dictionary of Greek and Roman Antiquities," under the article *Liber*, the writer says: "The *papyrus-tree* grows in swamps, &c.," and that "paper was prepared from the *thin coats or pellicles which surround the plant*." Liddell and Scott's Greek Lexicon defines βίβλος as "the *inner bark* of the papyrus." A similar account is given in the Lexicon of Jacobitz and Seiler, Pape, and Rost and Palm's edition of Passow under βίβλος and παπυρός; so also in many encyclopaedias. *e. g.*, the "Encyclopaedia Britannica," and others. This common error of speaking of the *papyrus* as if it were an exogenous plant (and even a *tree*!) has originated from ignorance or forgetfulness of the elements of botany, and the consequent misinterpretation of the passage in Pliny (*Hist. Nat.* xiii. 11-13, al. 21-27), which is our chief source of information about the ancient manufacture of paper from this plant. One of the words Pliny uses to describe the thin strips into which the *cellular substance of the stem* was sliced in making the paper is *philyra*, which strictly denotes the inner bark of the Linden tree (*Tilia*), also used as a writing material. Hence the papyrus has been conceived of by the eminent authorities above cited as an exogen, with its inner and outer bark!

W. R. G.

§ 300. **Epigaea repens**, L.—I found specimens of this plant in full bloom at Princes Bay, S. I., on Saturday, Mch. 1st. I do not know that it has ever been found earlier in this locality.

A. H.

§ 301. **Anychia dichotoma**, Mchx., **not dichotomous**.—I do not know whether attention has already been called to the fact, that the specific name of this plant is really a misnomer, if we take the term, "dichotomy," in its strict scientific signification.

If we examine younger specimens of our *Anychia*, we invariably find every axis terminated by a *flower*, with a branch on each side from *lateral buds below* the apex. Hence this is a plain case of cymose, not of dichotomous ramification. In older specimens, say toward the end of July or in August, when many of these terminal flowers have fallen off, the main stem and many branches appear bifurcated. But I need not repeat that this cannot be called dichotomy, which only occurs when some axis, *at its very apex*, is "cut into two" branches, which may again be divided in the same manner, and so on.

Now, although I commonly agree with those who believe in the

celebrated words, "What's in a name?" still I think scientific names ought not to be apt to create erroneous impressions, especially in reference to such important facts as the structure of the body of a plant.

JOS. SCHRENK.

College Point, L. I., March 11.

§ 302. **Non-cellular Plants.** [The following lines are translated from a proof-slip lately received in a letter from Prof. Jul. Sachs.

JOS. SCHRENK.]

Prof. Sachs demonstrated a number of plants of the order Siphonaceae before the Physico-medical Society of Würzburg, and remarked that these Thallophytes, together with the Mucorinaceae, are as yet considered as *single celled* plants, that is to say, as plants consisting of but one cell. This is correct, Prof. Sachs says, if by the term "cell" we understand a body which has originated by growth and is surrounded by a cell-membrane containing protoplasm. But as we can observe that the growth of the Siphonaceae and Mucorinaceae is not accompanied by corresponding cell-divisions, as is the case with nearly all other plants, but takes place without any such divisions, it seems more natural to consider them as *non-cellular* plants—as plants whose interior is not divided by partitions, and whose protoplasm is not parted nor gathered around numerous centres. In this respect the Coeloblasts without any nuclei (Siphonaceae, Mucorinaceae and others) differ materially from other so-called single-celled plants, such as the Desmidiaceae, Bacillariaceae, etc., the growth of which is accompanied by rhythmically repeated divisions; only with them the different compartments of the cell separate from one another at once, and may live as "single-celled" plants.

§ 303. **Agaricus chlorinosmus, Peck.**—It seems to me far more probable that the fungus, noticed in the BULLETIN for December, was exhaling chlorine, when found, than a hitherto unknown substance with its exact odor. Plants are said to exhale ozone, which has the same disinfectant properties as chlorine, but a different odor. Is not the odor one of the most delicate and reliable tests for free chlorine? and would not the same line of argument which rejects it also reject all other tests? Is the odor of Eschscholtzia juice *exactly* like that of muriatic acid?

C. F. A.

§ 304. **Publications.**—1. *Ferns of North America*, Parts xii and xiii, S. E. Cassino, Salem, Mass. It is some time since we called attention to this beautiful and low priced publication, which no student of our ferns would willingly be without. The present installment contains plates and descriptions of eleven species with their varieties, viz: *Aspidium acrostichoides*; *Pteris aquilina*; *Asplenium trichomanes*, *A. viride*, *A. parvulum*; *Adiantum Capillus-Veneris*, *A. emarginatum*; *Vittaria lineata*; *Notholaena sinuata*, *N. ferruginea*, *N. Newberryi*. It seems that *Adiantum Capillus-Veneris* and *Asplenium parvulum* have recently been found in Greene County, Missouri, by Prof. E. M. Shepard. This is their highest northern range, about 37°, except the Kentucky station for the *Asplenium* mentioned below. As regards *Pteris aquilina*, var *caudata*, a variety which has been reported as growing near Manchester, N. J., we quote